

## 4.4 CULTURAL RESOURCES

### 4.4.1 Setting

Cultural resources include prehistoric resources, historic resources, Native American resources, and paleontological resources. Prehistoric resources represent the remains of human occupation prior to European settlement. Historic resources represent remains after European settlement and may be part of a "built environment," including human-made structures used for habitation, work, recreation, education and religious worship, and may also be represented by houses, factories, office buildings, schools, churches, museums, hospitals, bridges and other structural remains. Native American resources include ethnographic elements pertaining to Native American issues and values. The following describes the County's existing regional ethnography, historical, archaeological, and paleontological resources.

**a. Regional Ethnography and Ethnohistory.** San Luis Obispo County is within the territory historically occupied by the Chumash (Gibson, 1990; Greenwood, 1978; Kroeber, 1953). The northern part of the County (from approximately Morro Bay north to the Monterey County line) is within the area historically occupied by the Salinan people. The archaeological record indicates that sedentary populations occupied the coastal regions of California more than 9,000 years ago. Native American society began to disintegrate soon after Spanish contact in 1769, primarily due to the introduction of epidemic European diseases and the consequent high mortality rate.

Several chronological frameworks have been developed for the Chumash region including Rogers (1929), Wallace (1955), Harrison (1964), Warren (1968), and King (1981). King has divided the prehistory of the Chumash region into three periods: Early (8000 to 3350 B.P.), Middle (3350 to 800 B.P.), and Late (800 to 150 B.P.). King's chronology is based on stylistic changes in beads and ornaments from burial assemblages. The artifact types, which indicate temporal affiliation, are seldom found in quantity outside of cemeteries, limiting the usefulness of the chronology for dating components at other kinds of sites. However, the chronology can be tied to absolute dates through radiocarbon methods. Dates for the beginning and end of each of King's periods are based on radiocarbon dates from burial assemblages (King, 1981).

King's Early Period (8,000 to 3,350 B.P.) begins with the peak of a warm, dry climatic period known as the Altithermal. The Chumash used large flake and core tools, milling stones, and hand stones during this time. Mortars and pestles, which indicate the pounding of acorns, were used after the peak of the Altithermal (Glassow, Wilcoxon, and Erlandson, 1988: 8). Evidence for the pursuit of sea mammals and broadening of diet is likely related to a population increase associated with the easing of Altithermal conditions (Glassow, Wilcoxon, and Erlandson, 1988). Evidence useful for reconstructing settlement patterns during the Early Period is extremely limited. Based on these limited data, King (1981) suggests that Early Period sites varied from locations along the Santa Barbara Channel on the crests of hills away from the ocean and knolls adjacent to sloughs. All Early Period sites investigated appear to be base camps, although temporary camps also likely existed.

During the Middle Period (3350 to 800 B.P.), increasing sedentism and emphasis on marine resources are indicated by the appearance of coastal villages occupied during a large part of the



year. Circular shell fishhooks were added to the bone gorges and compound hooks used during the Early Period (Tartaglia, 1976). The plank canoe, which made ocean fishing and travel safer and more efficient, came into use about 1500 B.P. (Arnold, 1987: 7). Use of the plank canoe also promoted trade and exchange between the mainland and the Channel Islands. Contracting-stemmed and corner-notched dart points, used with spear throwers, indicate hunting of land animals. Increasing status differentiation is seen in differences in the amounts of beads and other ornaments associated with burials (Martz, 1987).

Full cultural development of the Chumash, one of the most economically and socially complex hunter-gatherer groups in North America (Arnold, 1987), occurred during the Late Period (800 to 150 B.P., or approximately AD 1200 to 1850). Marine fishing and trading constituted the principal economic pursuits. Differentiation in social status developed to a point at which village chiefs inherited their rank and probably controlled trade and redistribution. Only certain high-ranking lineages built and operated plank canoes. Trade and redistribution of goods from different environmental zones was facilitated by the use of shell bead “money,” made almost exclusively on the Channel Islands where a specialized industry of producing microdrills (used to make shell beads) from local chert emerged (Arnold, 1987: 247). Coastal Chumash villages featured circular houses made of willow poles and thatch, with a hearth located in the center of the floor. Each village also contained a sweathouse, sacred council area, dance floor, and cemetery (Rogers, 1929).

During the Late Period, terrestrial animals were hunted with the bow and arrow (in addition to snares and traps), indicated by smaller projectile points weighing less than 3.5 grams (Fenenga, 1953). Acorns continued as a valuable food source, processed with stone mortars and pestles. As a storable food, acorns played an important role in increasing sedentism and developing social complexity (Johnson and Earle, 1987). Fashioned by specialists, shell ornaments and beads were used to reinforce status differences as well as provide a standard of exchange.

When the mission period began in 1769, the Chumash occupied coastal areas from Malibu Canyon to Morro Bay and inland areas as far as the western edge of the southern San Joaquin Valley (Grant, 1978a). The overall Chumash ethnolinguistic group included several dialectical subdivisions corresponding to territories around missions established by the Spanish, who assigned names to these groups. These subdivisions included the Ventureño near Mission San Buenaventura, the Barbareño near Mission Santa Barbara, the Ynezeño near Mission Santa Ynez, the Purismeño near Mission La Purísima, and the Obispeño near Mission San Luis Obispo. These missions were founded between 1772 and 1804. The Cuyama, Emigdiano, and Castaic Chumash lived further inland where no missions were built. Similarly, the Island Chumash inhabited the mission-less northern Channel Islands.

Prehistoric marriage patterns and post mission settlement patterns have also identified Salinan and Yokut people living in the northern portions of San Luis Obispo County (Gibson, 1998). The southern end of Cholame Valley is within the territory historically occupied by the Southern, or Migueleño, Salinan (as cited in Rivers, 2000). Their homeland extended north-south from slightly above present-day Bradley to just north of Paso Robles, and west to the coast near the Estero Bay. Migueleño territory lay in present-day Monterey and San Luis Obispo counties and included the western boundary of Kern County (as cited in Rivers, 2000).



Historic occupation in locations such as the Toro Creek Canyon by the Salinan people was documented by C. Hart Merriam in 1933 (Hester, 1978:503-04). Linguistically, the Salinan are subdivided into three major divisions, the Antoniano, Migueleno, and the Playano (Hester 1978). There is a lack of archaeological and ethnohistoric data on the Salinan, when compared to information on the Chumash. According to the cited historical and archaeological evidence, the Salinan followed a hunting and gathering lifestyle based on the collection of plant foods, primarily acorns. Fishing and trade were also important components of the Salinan society. The Tulare Yokuks were the Salinans main trading partners, while limited trade was conducted with the Chumash to the south (Hester, 1978).

The Chumash and Salinan way of life was forever altered with Spanish colonization. As the Spanish compelled many Chumash and Salinan to live within the mission compounds, they were transformed from hunters and gatherers into agricultural laborers and exposed to European diseases to which they had no resistance. As a result of sickness and poor treatment, large numbers of Chumash and Salinan perished under the Spanish regime. By the end of the Mission Period in 1834, the Chumash and Salinan population had been decimated by disease and low birth rates. The native population at Mission San Luis Obispo, for example, plummeted from 919 individuals in 1803 to just 170 by 1838 (Greenwood, 1978: 521). Population loss as a result of disease and economic deprivation continued into the next century.

**b. Historic Resources.** The earliest Spanish explorers of the central California coastline included Juan Rodriguez Cabrillo in 1542, Pedro de Unamuno in 1587, Sebastian Rodriguez Cermeño in 1595, Sebastián Vizcaíno in 1602, and Gaspar de Portolá in 1769. Mission San Luis Obispo de Tolosa was founded by the Spanish in 1772, damaged by earthquake in 1830, and secularized by Mexico in 1834. The Potrero de San Luis Obispo and Cañada de los Osos land grants were made by Mexican Governor Alvarado in 1842, with the Pecho y Islay grant first given by Governor Micheltorena in 1843 and again by Governor Pio Pico in 1845 (Avina, 1932: 70).

After California joined the United States, the ranchos continued to be used to raise cattle until 1863-1864, when severe drought depleted the cattle supply and they were replaced by sheep. With the coming of the American Period, San Luis Obispo County was established as one of the original counties into which the new state of California was divided in 1850, but the present boundaries were not finalized until the Historical Survey Commission recommended more detailed codification of County boundary laws in 1919 (Coy, 1973: 233-237).

First noted as a Spanish-Mexican pueblo in 1845 (Angel, 1883: 129), the City of San Luis Obispo was formally laid out in 1850 (Bright, 1998: 134; Gudde, 1998: 340). A stage line between San Francisco and San Diego included regular stops in San Luis Obispo from the 1850s through the early 1880s (Newmark, 1984: 153, 496). By 1869, dairying had become an important part of the local economy, headed primarily by the Swiss and Swiss-Italian farmers. The number of local dairies decreased substantially with the Depression in the 1930's, and the industry never recovered fully.

By the 1940's, bean and grain crops were the primary source of income around San Luis Obispo, and agricultural development has successfully expanded into the present (Roper et al 1997). The railroads became increasingly important as agricultural crops from the area were freighted



overseas during World War I. Roadways were initiated by the dairy industry, and the first county road was completed in 1870. The road extended from San Luis Obispo to San Simeon and was built by the Chinese laborers provided by Ah Louis, a local Chinese businessman.

California Polytechnic State University (Cal Poly) was established in 1903 as a vocational school on 281 acres. By 1982 the university had obtained more than 6,000 acres. In 1927, the National Guard founded Camp Merriam on 2,000 acres that were converted to the U.S. Army infantry and artillery training camp known as Camp San Luis between 1940 and 1941.

Historic development of the City of San Luis Obispo resulted in the establishment of many businesses, buildings, structures, and features. Population size increased dramatically over time, and between 1891 and 1944 the city grew from 3,500 people to 16,000 people. Perhaps the most visible growth occurred at the end of World War II when military installations established in response to the war artificially inflated the local economy. Many of those soldiers returned permanently to San Luis Obispo after the war (Kreiger 1988:102-104). San Luis Obispo and the surround communities have experienced growth spurts since the 1970's to the present.

The National Register of Historic Places lists 34 historically-recognized locations within San Luis Obispo County (refer to Table 4.4-1). National Register properties are distinguished by having been documented and evaluated according to uniform standards.

**Table 4.4-1. National Register of Historic Places in SLO County**

<b>Resource Name</b>	<b>Address</b>	<b>City</b>	<b>Listed</b>
<i>Administration Building, Atascadero Colony</i>	<i>6500 Palma Avenue</i>	<i>Atascadero</i>	<i>1977</i>
<i>Angel, Myron, House</i>	<i>714 Buchon Street</i>	<i>San Luis Obispo</i>	<i>1982</i>
<i>Archeological Site 4 SLO 834</i>	<i>Address Restricted</i>	<i>Atascadero</i>	<i>1982</i>
<i>Archeological Site 4SLO187</i>	<i>Address Restricted</i>	<i>San Simeon</i>	<i>1980</i>
<i>Arroyo Grande IOOF Hall</i>	<i>128 Bridge Street</i>	<i>Arroyo Grande</i>	<i>1991</i>
<i>Atascadero Printery</i>	<i>6351 Olmeda</i>	<i>Atascadero</i>	<i>2004</i>
<i>Bank of Italy</i>	<i>1245 Park Street</i>	<i>Paso Robles</i>	<i>1998</i>
<i>Brewster-Dutra House</i>	<i>1803 Vine Street</i>	<i>Paso Robles</i>	<i>1982</i>
<i>Caledonia Adobe</i>	<i>0.5 miles south of 10th Street</i>	<i>San Miguel</i>	<i>1971</i>
<i>Caliente Mountain Aircraft Lookout Tower</i>	<i>Northwest of New Cuyama</i>	<i>New Cuyama</i>	<i>1975</i>
<i>Call--Booth House</i>	<i>1315 Vine Street</i>	<i>Paso Robles</i>	<i>1988</i>
<i>Carrizo Plain Rock Art Discontiguous District</i>	<i>Address Restricted</i>	<i>California Valley</i>	<i>2001</i>
<i>Corral de Piedra</i>	<i>South of San Luis Obispo on Price Canyon Road</i>	<i>San Luis Obispo</i>	<i>1978</i>
<i>Dana Adobe</i>	<i>South end of Oak Glen Avenue</i>	<i>Nipomo</i>	<i>1971</i>
<i>Eight Mile House</i>	<i>Off U.S. 101 on Stagecoach Road</i>	<i>Santa Margarita</i>	<i>1995</i>
<i>Guthrie House</i>	<i>Burton and Center Streets</i>	<i>Cambria</i>	<i>1980</i>
<i>Hearst San Simeon Estate</i>	<i>3 miles northeast of San Simeon</i>	<i>San Simeon</i>	<i>1972</i>
<i>Jack, Robert, House</i>	<i>536 Marsh Street</i>	<i>San Luis Obispo</i>	<i>1992</i>
<i>Lincoln School</i>	<i>9000 Chimney Rock Road</i>	<i>Paso Robles</i>	<i>2001</i>
<i>Mission San Miguel</i>	<i>U.S. 101</i>	<i>San Miguel</i>	<i>1971</i>
<i>Old Santa Rosa Catholic Church and Cemetery</i>	<i>Main Street</i>	<i>Cambria</i>	<i>1982</i>
<i>Pacific Coast Railway Company Grain Warehouse</i>	<i>65 Higuera Street</i>	<i>San Luis Obispo</i>	<i>1988</i>
<i>Piedras Blancas Light Station</i>	<i>Highway 1 on Point Piedras Blancas</i>	<i>San Simeon</i>	<i>1991</i>
<i>Port San Luis Site</i>	<i>Address Restricted</i>	<i>San Luis Obispo</i>	<i>1978</i>
<i>Powerhouse, The</i>	<i>Jct. of South Perimeter Road and</i>	<i>San Luis Obispo</i>	<i>1993</i>



**Table 4.4-1. National Register of Historic Places in SLO County**

Resource Name	Address	City	Listed
	Cuesta Avenue		
<i>Price, John, House</i>	<i>Highland Drive off Price Canyon Road</i>	<i>Pismo Beach</i>	<i>1988</i>
Rancheria Del Buchon	Address Restricted	Edna	1978
Rancho Canada de los Osos y Pecho y Islay	Address Restricted	San Luis Obispo	1975
<i>Robles, Paso, Carnegie Library</i>	<i>City Park, 800 12th Street</i>	<i>Paso Robles</i>	<i>1998</i>
<i>San Luis Obispo Carnegie Library</i>	<i>696 Monterey Street</i>	<i>San Luis Obispo</i>	<i>1995</i>
San Luis Obispo Light Station	Unknown	San Luis Obispo	1973
San Luis Obispo Light Station	Point San Luis	Avila Beach	1991
Southern Pacific Railroad Depot	1300 Mission Street	San Miguel	1978
<i>Tribune--Republic Building</i>	<i>1763 Santa Barbara Street</i>	<i>San Luis Obispo</i>	<i>1993</i>

Source: National Register of Historic Places, accessed 14 July 2009  
*Italics indicate sites within city limits*

In addition to those properties identified in the National Register of Historic Places, the State Office of Historic Preservation designates California Historical Landmarks throughout the State. Historical Landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. San Luis Obispo County contains several State-designated historical landmark sites, listed below.

**Table 4.4-2. State Office of Historic Preservation Historical Places in SLO County**

Resource Name	Address	City
<i>Administration and Veteran's Memorial Building</i>	<i>6500 Palma Avenue</i>	<i>Atascadero</i>
<i>Ah Louis Store</i>	<i>800 Palm Street at Chorro Street</i>	<i>San Luis Obispo</i>
<i>Dallidet Adobe</i>	<i>1309 Toro Street at Pacific Street</i>	<i>San Luis Obispo</i>
Estrella Adobe Church	Airport Road, 2.5 miles north of Hwy 46	Paso Robles
Hearst San Simeon State Historical Monument	Hearst San Simeon State Historical Monument	San Simeon
<i>Mission San Luis Obispo</i>	<i>Monterey Street between Chorro and Broad St.</i>	<i>San Luis Obispo</i>
Mission San Miguel Arcángel	Southwest corner of Mission St. and SLO Rd.	San Miguel
<i>Morro Rock</i>	<i>Embarcadero Road, 0.4 miles NW of Morro Bay</i>	<i>Morro Bay</i>
Rancho Nipomo (Cpt. William O. Dana Rancho	6715 Oakglen Avenue	Nipomo
Rios-Caledonia Adobe	700 Mission Street	San Miguel
Santa Margarita Asistencia	Rancho Santa Margarita Hay Barn	Santa Margarita
The Sebastian Store	San Simeon Road	San Simeon
Twentieth Century Folk Art Environments	Nitt Witt Ridge, 881 Hillcrest Drive	Cambria Pines

Source: State Office of Historic Preservation

*Italics indicate sites within city limits*

**c. Archaeological Resources.** There are thousands of recorded archaeological sites located throughout the County, especially near major watercourses, ridgelines, canyon mouths, and coastal areas. The vast majority are located within the County's Coastal Zone. Although the official Land Use Element (LUE) maps delineating urban Archaeologically Sensitive Areas have been valuable in triggering archaeological site review for the majority of planned urban development, they are not all inclusive of archaeological resources within coastal and inland urban areas.

Disclosure of specific information on archaeological sites is inappropriate for EIRs. Locations of sites are kept confidential in order to prevent vandalism, artifact hunting, and trespassing. The



Central Coastal Information Center, operated under the State Office of Historic Preservation, provides site location data and/or the exact contents of surveyed sites only to qualified archaeologists, who are then prohibited from disclosing this information to the public. California Government Code Section 6254.10 exempts archaeological site information from the California Public Records Act, which requires that public records be open to public inspection.

**d. Paleontological Resources.** Paleontological resources are the fossilized remains of prehistoric plant and animal organisms, as well as the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. Under state and federal law, paleontological resources are considered to be nonrenewable resources.

Paleontologic sensitivity is the potential for a geologic unit to produce scientifically significant fossils, as determined by rock type, past history of the rock unit in producing fossil materials, and fossil sites that are recorded in the unit. A paleontologic sensitivity rating is derived from fossil data from the entire geologic unit, not just from a specific survey area. However, it does not measure the significance of individual fossils present within the County, because it is impossible to accurately predict what individual fossils may be discovered. The significance of an individual fossil can only be determined after it is found and evaluated.

A three-fold classification of sensitivity, labeled as high, low and indeterminate, is used in California and recommended by the Society of Vertebrate Paleontology, as follows:

- High Sensitivity – Indicates fossils are currently observed on-site, localities are recorded within the study area and/or the unit has a history of producing numerous significant fossil remains.
- Low Sensitivity – Indicates significant fossils are not likely to be found because of random fossil distribution pattern, extreme youth of the rock unit and/or the method of rock formation, such as alteration by heat and pressure.
- Indeterminate Sensitivity – Unknown or undetermined status indicates that the rock unit either has not been sufficiently studied or lacks good exposures to warrant a definitive rating. This rating is treated initially as having a high sensitivity or potential. After study or monitoring, the unit may fall into one of the other categories.

Other professionals expand the previous classification to include up to three additional ratings of very high, moderate and no sensitivity, as follows:

- No Sensitivity – Some paleontologists use this for crystalline rock units such as igneous rocks, where the rock forms from molten magma, which would preclude fossil preservation.
- Moderate Sensitivity – Applied by some to geologic units that have a history of producing meager fossil collections.
- Very High Sensitivity – May be warranted for a project that contains very well known and scientifically important localities. Another example would be if a known fossil bone bed is present or is predicted to be present.

Paleontological resources are generally found in sedimentary rock units in which the boundaries of a sedimentary rock unit define the limits of paleontologic sensitivity in a given



region. In a sense, volcanic ash eruptions into a lake or ocean basin also constitute sedimentary rock units that may contain fossil material. Most fossil material is found where bedrock is exposed on the surface, typically in mountainous terrain or in areas where erosion has removed the soil or regolith surface. As a result, paleontological sites are normally discovered in cliffs, ledges, steep gullies, or along wave-cut terraces where vertical rock sections are exposed. Fossil material may be exposed by a trench, ditch, or channel caused by construction. Regional geologic papers usually present numerous invertebrate fossil sites especially in marine rocks. Some invertebrate fossil sites are more productive than others. It is the richness of invertebrate fossils in marine rocks that makes a particular invertebrate fossil discovery of less critical concern and significance. Vertebrate fossil sites are usually found in nonmarine or continental deposits. Occasionally vertebrate marine fossils such as whale, porpoise, seal, or sea lion can be found in marine rock units such as the Miocene Monterey Formation and the Pliocene Sisquoc Formations known to occur throughout Central and Southern California. Vertebrate fossils of continental material are usually rare, sporadic, and localized. Scattered vertebrate remains (mammoth, mastadon, horse, ground sloth, camel, and rodents) have been identified from the Pleistocene non-marine continental terrace deposits on Vandenberg Air Force Base to the south (Flarz, 2003). Presently none of these sites have been published in the literature but are known through fossil catalogues (Jefferson 2001, Revised).

#### **e. Regulatory Framework.**

California Register of Historical Resources (CRHR). “The California Register is an authoritative guide in California to be used by state and local agencies, private groups, and citizens to identify the state’s historical resources and to indicate which properties are to be protected, to the extent prudent and feasible, from substantial adverse change” (Public Resources Code Section 5024.1(a)). The CRHR is overseen and administered by the State Historical Resources Commission. The criteria for listing resources on the CRHR are based on those developed by the National Park Service for listing on the National Register of Historic Places with modifications in order to include a broader range of resources which better reflect the history of California. A resource is considered historically significant if it:

- *Is associated with events or patterns of events that have made a significant contribution to the broad patterns of the history and cultural heritage of California and the United States.*
- *Is associated with the lives of persons important to the nation or to California’s past.*
- *It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.*
- *It has yielded, or may be likely to yield, information important to the prehistory or history of the State and the Nation.*

California Public Resources Code. Section 5097.9 of the California Public Resources Code stipulates that it is contrary to the free expression and exercise of Native American religion to interfere with or cause severe irreparable damage to any Native American cemetery, place of worship, religious or ceremonial site, or sacred shrine.

Section 5097.5 of the California Public Resources Code (PRC) prohibits excavation or removal of any “vertebrate paleontological site or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands.” PRC 30244



requires reasonable mitigation of adverse impacts to paleontological resources from development on public land. Penal Code Section 623 spells out regulations for the protection of caves, including their natural, cultural, and paleontological contents. It specifies that no “material” (including all or any part of any paleontological item) will be removed from any natural geologically formed cavity or cave.

State Health and Safety Code. If human remains are discovered or exposed during construction, State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then contact the most likely descendent of the deceased Native American, who will serve as a consultant on how to proceed with the remains (i.e. avoid or rebury).

San Luis Obispo County Standards. The County has a vital interest in preserving its many older buildings, and prehistoric and historic sites, which not only represent the heritage of San Luis Obispo County, but also help define the character of the region today.

The Historic Site (H) combining designation is applied to recognize the importance of archeological sites and historic sites, structures and areas important to local, state, or national history. These standards are intended to protect archeological resources, historic structures and sites by requiring new uses and alterations to existing uses to be designed with consideration for preserving and protecting these resources. A (H) combining designation is applied to both archeological resources (historic and prehistoric) and to identified historic structures, landmarks, and districts.

In the event archaeological resources are unearthed or discovered during any construction activities, the following standards apply:

- Construction activities shall cease, and the County Environmental Coordinator shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law.
- In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County Coroner is to be notified in addition to the Environmental Coordinator so proper disposition may be accomplished. If the remains are determined to be Native American, then the County Coroner must notify the Native American Heritage Commission within 24 hours.

The Coastal Zone Land Use Ordinance (Section 23.07.104) identifies Archaeologically Sensitive Area (AS) combining designations within the County Coastal Zone. These areas are defined as follows:





- Any parcel within a rural area which is identified on the rural parcel number list prepared by the California Archaeological Site Survey Office on file with the County Planning Department.
- Any parcel within an urban or village area which is located within an archaeologically sensitive area as delineated by the official maps (Part II) of the Land Use Element.
- Any other parcel containing a known archaeological site recorded by the California Archaeological Site Survey Office.

This section of the Coastal Zone Land Use Ordinance also outlines procedures and requirements to apply to development within archaeologically sensitive areas.

The San Luis Obispo Local Coastal Program and the Coastal Act (Section 30244) requires that where development would adversely impact archeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required.

Senate Bill 18 (SB 18) Tribal Consultation. California Government Code §65352.3 (adopted pursuant to the requirements of SB 18) requires local governments to contact, refer plans to, and consult with tribal organizations prior to making a decision to adopt or amend a general or specific plan. The tribal organizations eligible to consult have traditional lands in a local government's jurisdiction, and are identified, upon request, by the Native American Heritage Commission (NAHC). As noted in the California Office of Planning and Research's Tribal Consultation Guidelines (2005), "The intent of SB 18 is to provide California Native American tribes an opportunity to participate in local land use decisions at an early planning stage, for the purpose of protecting, or mitigating impacts to, cultural places."

On June 30, 2009, the County of San Luis Obispo sent letters to local tribal representatives and organizations identified by the NAHC as eligible to consult with local governments pursuant to California Government Code §65352.3 (adopted pursuant to the requirements of SB 18). The County has received one request for consultation from the Northern Chumash Tribal Council.

#### **4.4.2 Impact Analysis**

**a. Methodology and Significance Thresholds.** Appendix G of the State CEQA Guidelines states that a project would result in a potentially significant impact if it would:

- *Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;*
- *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;*
- *Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or*
- *Disturb any human remains, including those interred outside of formal cemeteries.*

Additionally, the County of San Luis Obispo has established local thresholds pertaining to cultural resources. Impacts would be significant if development resulting from the project would do any of the following:

- *Disturb pre-historic resources;*



- *Disturb historic resources;*
- *Disturb paleontological resources.*

Historical and Archaeological Resources. According to the State CEQA Guidelines, a resource shall generally be considered “historically significant” if the resource meets the criteria for listing on the California Register of Historic Resources (*supra*). The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in a historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be a historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1. Under the provision of the State CEQA guidelines, many archeological resources are considered historic resources and are provided the same level of protection as discussed herein.

Under CEQA, an impact to an historical resource is considered significant if the impact lessens the integrity of the qualities of the property that qualify it for the California Register. If the proposed project may cause damage to a significant historical resource, the project may have a significant effect on the environment. Section 15064.5 of the CEQA Guidelines pertains to the determination of the significance of impacts to archaeological and historic resources. Direct impacts may occur by:

- (1) *Physically damaging, destroying, or altering all or part of the resource;*
- (2) *Altering characteristics of the surrounding environment that contribute to the resource's significance;*
- (3) *Neglecting the resource to the extent that it deteriorates or is destroyed. Indirect impacts primarily result from the effects of project-induced population growth. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources; or*
- (4) *The incidental discovery of cultural resources without proper notification.*

Indirect impacts result primarily from the effects of project-induced population growth. Such growth can result in increased construction as well as increased recreational activities that can disturb or destroy cultural resources.

CEQA provides guidelines for mitigating impacts to historical or archaeological resources in Section 15126.4. Preservation in place is the preferred manner of mitigating impacts (14 CCR 15126.4(b)(3)). Preservation in place may be accomplished by planning construction to avoid the resource, incorporating sites within parks or open space, covering sites with chemically stable and culturally sterile fill, or deeding the site into a permanent conservation easement. For buildings and structures, maintenance, repair, restoration, preservation, conservation, or reconstruction consistent with the *Secretary of Interior's Standards and Guidelines for the Treatment of Historic Properties* is considered mitigation of impacts to a less than significant level (14 CCR 15126.4(b)(1)). Documentation of an historical resource, however, will not mitigate the effects of demolition to a less than significant level (14 CCR 15126.4(b)(2)). When data recovery excavation of an archaeological site is the only feasible mitigation, a detailed data recovery plan must be prepared and adopted prior to any excavation.



Paleontological Resources. Significant paleontological resources are fossils or assemblages of fossils that are unique, unusual, rare, uncommon, diagnostically or stratigraphically important, and/or add to an existing body of knowledge in specific areas stratigraphically, taxonomically, or regionally. Significant resources include fossil remains of large to very small aquatic and terrestrial vertebrates, remains of plants and animals not previously represented in certain portions of the stratigraphic sequence, and assemblages of fossils that might aid stratigraphic correlations, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, paleoclimatology, and the relationships of aquatic and terrestrial species. Vertebrate fossils, some invertebrate fossils, and some suites of plant fossils may be classified as significant paleontological resources.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the vertebrates, their age, evolutionary characteristics, the type of environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur so rarely. Each additional vertebrate fossil provides considerable scientific information. Invertebrate fossils and plant fossils tend to be more abundant than vertebrate fossils. These fossils generally are ranked lower in significance than vertebrates unless they are in short supply, are age-diagnostic, or their paleoenvironmental framework is unique. Thus, geological rock units having the potential to contain vertebrate fossils are considered the most sensitive.

#### **b. Project Impacts and Mitigation Measures.**

**Impact CR-1 The proposed Grading and Stormwater Management Ordinances would modify the County's current development standards, leading to a potential change in development patterns and a change in physical impacts to identified or unrecognized historic resources. Impacts would be Class II, *significant but mitigable*.**

The National Register of Historic Places lists 34 historically-recognized locations within San Luis Obispo County (refer to Table 4.4-1). The majority of these sites are located in urban areas of the County, including ten sites in San Luis Obispo, five sites in Paso Robles, three sites in Atascadero, one site in Arroyo Grande and one site in Pismo Beach. An additional 14 sites are located in unincorporated areas of the County, including (but not limited to) three in San Simeon, three in San Miguel, and two in Cambria (refer to Table 4.4-1). Because the proposed Grading and Stormwater Management Ordinance revisions would affect parcels in unincorporated areas of the County, future development in accordance with the ordinances could significantly impact identified historic resources in unincorporated areas or unrecognized historical resources either through direct impacts to the resources themselves or impacts to their immediate surroundings (e.g., changing historic context, etc.). Impacts to the immediate surroundings may result from individual development that alters a historic structure or the unique character and context of the physical environment.

In addition to those properties identified in the National Register of Historic Places, the State Office of Historic Preservation designates California Historical Landmarks throughout the State. San Luis Obispo County contains 13 State-designated historical landmark sites [refer to



Section 4.4.1(b)]. Six of these sites are located in urban areas, including three in San Luis Obispo, one in Paso Robles, one in Morro Bay and one in Atascadero. The remaining sites are located in unincorporated areas of the County, including San Miguel, San Simeon, Santa Margarita, Cambria Pines and Nipomo. As with nationally-recognized sites, future development in accordance with the ordinances could significantly impact identified historic resources in unincorporated areas or unrecognized historical resources. The characteristics and potential impact are discussed below.

The proposed modifications to the thresholds for grading permits will increase the number of development projects that are subject to a grading permit and the subsequent environmental review process, less the addition of the expanded agriculture grading procedures proposed for the Coastal Zone. The revisions would revise several aspects of the existing Land Use Ordinance and Coastal Zone Land Use Ordinance which may have the potential to affect historic resources, including: greater amount of ground disturbance to retain and filter stormwater runoff (e.g. bioswales and on-site retention / infiltration) and the proposed expansion of agricultural exemptions within the Coastal Zone.

All development resulting from these amendments would be consistent with the buildout potential anticipated under the County's General Plan, since the primary intent of the ordinance changes is to reduce pollutants associated with stormwater runoff from construction sites and proposed uses. The area of potential development would not change as a result of these amendments nor would it increase allowable densities. Because the project will not result in increased development intensities, resulting development would not result in a greater chance of removal or alteration of existing structures that may be considered a historic resource.

Grading activities that would be authorized under the "Alternative Review Program" are subject to the requirements that are contained in the "San Luis Obispo County Partners in Restoration Permit Coordination Program, Mitigated Negative Declaration" and will be reviewed for potential impacts to historic resources as a requirement of the individual project. Grading activities that would be authorized under the proposed "Alternative Review Program" are also subject to mitigation measure CR-1(a), which is a mitigation measure contained in the above referenced program.

RCD and NRCS staff personnel will receive cultural resources training. The training will be to the level designation in the "Leaders Guide for the NRCS - Natural Resource Training Program." This training provides staff with information on identifying and protecting cultural resources. In addition, their staff will consult with appropriate tribes (as identified by the Native American Heritage Commission or the National Park Service), public groups, individuals, and State Historic Preservation Officer (SHPO)/Tribal Historic Preservation Officer (THPO) to identify potential cultural resources within the project boundaries and evaluate, discuss whether they would be adversely affected by the proposed project, and how this impact could be minimized or avoided.

Mitigation Measures. As required by Land Use Ordinance Section 22.14.080 and Coastal Zone Land Use Ordinance Sections 23.07.100 through 23.07.102, the County shall protect historic structures and sites by requiring new uses and alterations to existing uses to be designed with consideration for preserving and protecting these resources. This includes



requiring minimum parcel sizes, identifying the required findings for approval, and implementing design requirements for those areas within a historic combining designation. Compliance with the Land Use Ordinance would partially reduce impacts. In addition, the following mitigation is required:

**CR-1(a) Historical Resource Survey.** At the time of application for construction permits for grading projects requiring environmental review, the County shall require an historical resource survey, conducted by a qualified archaeologist or historian approved by the Environmental Coordinator, that assesses the potential impacts of all ground disturbing activities (e.g. access roads, driveways, residences, utility trenches) on those parcels that:

- Are located within an Historic combining designation;
- Contain a designated historic site;
- Are located in an area of known historic resources; or,
- Contain structures greater than 50 years old.

Should the historical resource survey identify significant resources, the mitigation measures recommended by the qualified archaeologist or historian shall become mitigation measures. These measures could include, but not necessarily be limited to:

- Avoidance of significant historical resources;
- Graphic documentation (photographs, drawings, etc.);
- Prohibition of Demolition of Buildings and Structures; and/or
- Restoration, Stabilization, Repair, and Reconstruction.

Significance after Mitigation. Compliance with Land Use Ordinance Section 22.14.080 and Coastal Zone Land Use Ordinance Sections 23.07.100 through 23.07.102, in addition to the required mitigation, would reduce impacts to a less than significant level.

**Impact CR-2 The proposed Grading and Stormwater Management Ordinances would modify the County's current development standards, leading to physical impacts to identified and previously unidentified pre-historic archeological resources. Impacts would be Class II, significant but mitigable.**

San Luis Obispo County contains over 2,000 archaeological sites which are registered with the Central Coastal Information Center. In addition, an unknown number of unidentified resources may exist throughout the County. Future development in accordance with the Grading and Stormwater Management Ordinances have the potential to significantly impact archaeological resources either through direct impacts to the resources themselves or indirect impacts (e.g., relic collecting and/or vandalism, etc.). The characteristics and potential impact are discussed below.

The proposed modifications to the thresholds for grading permits will increase the number of development projects that are subject to a grading permit and the subsequent environmental



review process, less the expansion of the agriculture grading procedures proposed for the Coastal Zone. The revisions would revise several aspects of the existing Land Use Ordinance and Coastal Zone Land Use Ordinance which may have the potential to affect pre-historic archaeological resources, including: a greater amount of ground disturbance to retain and filter stormwater runoff (e.g. bioswales and on-site retention / infiltration) and the expansion of the proposed agricultural exemptions within the Coastal Zone.

All development resulting from these amendments would be consistent with the buildout potential anticipated under the County's General Plan, since the primary intent of the ordinance changes is to reduce pollutants associated with stormwater runoff from construction sites and proposed uses. The area of potential development would not change as a result of these amendments nor would it increase allowable densities. As a result, the magnitude of potential archaeological resource impacts would not necessarily be greater than what could currently occur under the existing ordinances. Nonetheless, given the presence of recorded archaeological sites and the long record of prehistoric and historic settlement in San Luis Obispo County, there is potential for buried archaeological deposits to occur on some parcels within the County. Development in accordance with the proposed ordinances could affect these resources.

As noted previously, the area of potential development would not change as a result of the proposed ordinances. Therefore, the magnitude of potential archaeological resource impacts would not necessarily be greater than what could currently occur without the proposed Grading and Stormwater Management Ordinance revisions.

Since the proposed ordinances may result in more ground disturbance compared to the current ordinance (e.g. greater amount of ground disturbance to retain and filter stormwater runoff); given the presence of recorded archaeological sites and the long record of prehistoric and historic settlement in San Luis Obispo County, development of affected parcels in accordance with the proposed ordinances could nonetheless disturb known resources. This could result in exposing resources to potential vandalism, or causing them to be displaced from the original context and integrity. Construction and grading activities may also affect unknown archaeological resources.

Grading activities that would be authorized under the "Alternative Review Program" are subject to the requirements that are contained in the "San Luis Obispo County Partners in Restoration Permit Coordination Program, Mitigated Negative Declaration" and will be reviewed for potential impacts to pre-historic resources as a requirement of the individual project and are also subject to mitigation measure CR-2(a) and CR-2(b) as applicable. These mitigation measures are also mitigation measures for the above referenced project.

As noted previously, RCD and NRCS staff personnel will receive cultural resources training. In addition, their staff will consult with appropriate tribes (as identified by the Native American Heritage Commission or the National Park Service), public groups, individuals, and State Historic Preservation Officer (SHPO)/Tribal Historic Preservation Officer (THPO) to identify potential cultural resources within the project boundaries and evaluate, discuss whether they would be adversely affected by the proposed project, and how this impact could be minimized or avoided.



Examples of activities that could substantially alter the integrity and significant qualities of archaeological resources include, but are not limited to: collection of artifacts from the archaeological sites; unauthorized excavation or looting of sites; erosion and other damage resulting from non-motorized or motorized vehicle use (horses, bicycles, dirt bikes, etc.); illicit trash dumping; and vandalism. Such effects are considered significant but mitigable environmental impacts.

Sites are typically found in areas conducive to past settlement, including flat terraces, near creeks, or in open areas adjacent to resources that may be useful to human settlement. In addition, previous disturbance in urban areas generally reduces the likelihood of discovering previously unknown archaeological resources. The proposed Grading and Stormwater Management Ordinance revisions affect parcels in all land use categories with a wide variety of topography and physical features typically associated with pre-historic occupation. Therefore, the likelihood of direct physical impacts to identified and previously unidentified pre-historic archeological resources remains significant but mitigable.

Mitigation Measures. As required by Coastal Zone Land Use Ordinance Section 23.07.104 (Protection of Archaeological Resources), the County shall protect and preserve archaeological resources within areas of the Coastal Zone identified as archaeologically sensitive (AS designation). This includes conducting preliminary site surveys, and requiring mitigation plans (if applicable). In addition, as required by Title 19 (Section 19.02.070) and Title 22 (Section 22.10.040) of the County Code, the County shall require that in the event that archaeological resources are unearthed or discovered during any construction activities, the following standards apply:

- a. Construction activities shall cease, and the Environmental Coordinator and Department of Planning and Building shall be notified so that the extent and location of discovered materials may be recorded by a qualified archaeologist, and disposition of artifacts may be accomplished in accordance with state and federal law; and
- b. In the event archaeological resources are found to include human remains, or in any other case when human remains are discovered during construction, the County Coroner is to be notified in addition to the Department of Planning and Building and the Environmental Coordinator so that proper disposition may be accomplished.

Compliance with the Coastal Zone Land Use Ordinance and the San Luis Obispo County Code would partially reduce impacts. In addition, the following mitigation is required:

- CR-2(a) Archaeological Surface Survey.** At the time of application for construction permits for grading projects requiring environmental review, the County shall require an archaeological surface survey, conducted by a qualified archaeologist approved by the Environmental Coordinator, that assesses the potential impacts of all ground disturbing activities (e.g. access roads, driveways, residences, utility trenches) on those parcels that:



- Are located within an Archaeological Sensitive Area (AS) combining designation;
- Contain known archaeological sites, as recorded on the County's Official Maps;
- Are located in an area designated by the County of San Luis Obispo Planning and Building Department as archaeologically sensitive (e.g. Nipomo, Santa Margarita, Salinas River area); or,
- Contain physical features on-site that may indicate the presence of archeological resources (e.g. springs, creeks, rock outcrops).

Should the archaeological surface survey identify significant resources, the applicant shall avoid the resource if feasible. Should avoidance be infeasible, mitigation measure below shall apply.

**CR-2(b)**

**Data Recovery Excavation.** If avoidance of an archaeological site(s) is not possible, data recovery excavation shall be completed prior to issuance of grading permits. A data recovery plan shall be submitted by a qualified archaeologist for review by the County Environmental Coordinator. Data recovery shall be funded by the applicant, shall be performed by a County-qualified archaeologist, and shall be carried out in accordance with a research design consistent with the requirements of the California Office of Historic Preservation Planning Bulletin 5, *Guidelines for Archaeological Research Design*. At a minimum, data recovery shall include:

- Mapping of site boundaries and the distribution of surface remains;
- Surface collection of artifacts;
- Excavation of a sample of the cultural deposit to characterize the nature of the site and retrieve a representative sample of artifacts and other remains within the proposed impact area;
- Monitoring of excavations at Native American sites by a tribal representative;
- Technical studies and analysis of the recovered sample, including radiocarbon dating, typological and technical analysis of tools and debris, identification and analysis of preserved faunal and floral remains, and other studies appropriate to the research questions outlined in the research design;
- Cataloguing and curation of all artifacts and records detailing the results of the investigations at a county approved curation facility;
- Submission of a final technical report detailing the results of the investigations; and
- Preparation of an interpretive report suitable for distribution to the general public.

**CR-2(c)**

**Archaeological Resource Construction Monitoring.** At the commencement of construction on sites that have been identified as having the potential to support cultural resources based on the mitigation





measure listed above, an archaeologist and / or a Native American representative shall conduct an orientation for construction workers to describe site avoidance requirements, the possibility of exposing unexpected archaeological resources, and the steps to be taken if such a find is encountered.

A qualified archaeologist and / or Native American representative shall monitor all earth moving activities within native soil. In the event that archaeological remains are encountered during construction, all work in the vicinity of the find will be halted until such time as the find is evaluated by a qualified archaeologist and appropriate mitigation, if necessary, is implemented.

Significance after Mitigation. Compliance with Coastal Zone Land Use Ordinance Section 23.07.104 and Title 19 (Section 19.02.070) and Title 22 (Section 22.10.040) of the County Code, in addition to the required mitigation, would reduce impacts to a less than significant level.

**Impact CR-3 The proposed Grading and Stormwater Management Ordinances would modify current development standards, leading to physical impacts. If development occurs in fossil-bearing strata, significant fossil materials could be damaged or destroyed. Impacts would be Class II, *significant but mitigable*.**

Paleontological resources are the fossilized remains of prehistoric plant and animal organisms, as well as the mineralized impressions (trace fossils) left as indirect evidence of the form and activity of such organisms. Paleontologic sensitivity is the potential for a geologic unit to produce scientifically significant fossils, as determined by rock type, past history of the rock unit in producing fossil materials, and fossil sites that are recorded in the unit. Geological strata with both high and unknown sensitivity to produce significant fossils occur throughout the County. The characteristics and potential impacts are discussed below.

The proposed modifications to the thresholds for grading permits will increase the number of development projects that are subject to a grading permit and the subsequent environmental review process, less the expansion of the agriculture grading procedures proposed for the Coastal Zone. The revisions would revise several aspects of the existing Land Use Ordinance and Coastal Zone Land Use Ordinance which may have the potential to affect paleontological resources, including: greater amount of ground disturbance to retain and filter stormwater runoff (e.g. bioswales and on-site retention / infiltration) and the addition of the proposed agricultural exemptions within the Coastal Zone.

As previously noted, all development resulting from these amendments would be consistent with the buildout potential anticipated under the County's General Plan, since the primary intent of the ordinance changes is to reduce pollutants associated with stormwater runoff from construction sites and proposed uses. The area of potential development would not change as a result of these amendments nor would it increase allowable densities. As a result, the magnitude of potential paleontological resource impacts would not necessarily be greater than what could currently occur under the existing ordinance. Nonetheless, given that fossil-bearing



strata are known to occur in San Luis Obispo County, there is potential for development in accordance with the proposed ordinance to damage or destroy fossil material.

The area of potential development would not change as a result of the proposed ordinances. Therefore, the magnitude of potential paleontological resource impacts would not necessarily be greater than what could currently occur without the proposed Grading and Stormwater Management Ordinance revisions.

Since the proposed ordinances may result in more ground disturbance compared to the current ordinance (e.g. greater amount of ground disturbance to retain and filter stormwater runoff); given that geological strata with both high and unknown sensitivity to produce significant fossils are known to occur in San Luis Obispo County, implementation of the proposed ordinances could nonetheless impact these areas. High-sensitivity areas have the potential to yield vertebrate fossils and also may produce invertebrate materials that could provide new and important taxonomic, phylogenetic, and/or stratigraphic data. Any vertebrate fossils disturbed in areas where sensitivity is currently unknown would also be a significant impact.

Grading activities that would be authorized under the “Alternative Review Program” are subject to the requirements that are contained in the “San Luis Obispo County Partners in Restoration Permit Coordination Program, Mitigated Negative Declaration” and will be reviewed for potential impacts to paleontological resources as a requirement of the individual project and are also subject to mitigation measure CR-3(a), CR-3(b), and CR-3(c) as applicable. These mitigation measures are also mitigation measures for the above referenced project.

As noted previously, RCD and NRCS staff personnel will receive cultural resources training. In addition, their staff will consult with appropriate tribes (as identified by the Native American Heritage Commission or the National Park Service), public groups, individuals, and State Historic Preservation Officer (SHPO)/Tribal Historic Preservation Officer (THPO) to identify potential cultural resources within the project boundaries and evaluate, discuss whether they would be adversely affected by the proposed project, and how this impact could be minimized or avoided.

Mitigation Measures. Implementation of the following mitigation measures would reduce impacts on paleontological resources to less than significant levels:

- CR-3(a) Preparation of a Paleontological Resource Monitoring Plan.** At the time of application for construction permits for grading projects requiring environmental review, applicants for projects where paleontological sensitivity is high shall retain a qualified accredited paleontologist to prepare a Paleontological Resource Monitoring Plan based on the specific construction plans. The monitoring plan shall detail the procedures for monitoring construction in areas of high or unknown sensitivity, collecting fossil remains and relevant geographic and stratigraphic data, stabilizing and preserving recovered specimens, and cataloguing and curating the collection. The monitoring plan shall include provisions for collecting a representative sample of invertebrates prior to construction, documenting the site according to the standards developed by the



National Research Council (1987), and assessing the potential of this site to contain significant vertebrate remains.

**CR-3(b) Paleontological Monitoring.** A qualified paleontological monitor shall observe any initial excavation, grading, or other ground disturbance which extends below the upper soil layers in *in situ* sedimentary rock where paleontological sensitivity is high. Paleontologists who monitor excavations must be qualified and experienced in salvaging fossils and authorized to temporarily divert equipment while removing fossils. They must be properly equipped with tools and supplies to allow for rapid removal and preparation of specimens, and trained in safe practices when working around construction equipment. If multiple pieces of heavy equipment are in use simultaneously at diverse locations during construction, each location may be monitored individually.

**CR-3(c) Treatment of Paleontological Remains Discovered During Monitoring.** If paleontological resources are found during excavations or other ground disturbance, work shall cease temporarily in the immediate area of the discovery. Ground disturbance may be redirected to another area so that the significance of the fossil find may be assessed. If an accredited paleontologist is not already on-site, a vertebrate paleontologist with regional experience will be contacted to inspect the excavation, assess the significance of the fossil find, recover any exposed fossils of significance, and recommend additional mitigation measures, if necessary.

A standard sample (3 to 12 cubic meters) of matrix from each site will be taken for identification of microvertebrates (rodents, birds, rabbits), especially when the potential for microvertebrates is high. The monitors also will determine whether the fossils are part of an archaeological deposit. If the fossils are found with cultural material, the site then will be considered an archaeological discovery and treated according to the procedures specified in CR-2(b) (Archaeological Resource Construction Monitoring).

Significant fossils found during construction shall be preserved by prompt removal whenever feasible. Due to the potential for rapid deterioration of exposed surface fossils, preservation by avoidance is not an appropriate measure. When a significant fossil cannot be removed immediately, stabilization is needed to prevent further deterioration prior to removal. The fossil location must be stabilized under the direction of a professional paleontologist.

At the time of collecting, each specimen or group of specimens will be clearly located and plotted on a USGS topographical quadrangle map. Field methods, other excavation activities, and working conditions during monitoring of the paleontological resources will be recorded in a field



notebook or on a paleontological resources record or worksheet such as those developed by the National Research Council (1987).

Recovered specimens will be stabilized and prepared for identification. Sedimentary matrix with microfossils will be screen washed and sorted to identify the contained fossils. Removal of excess matrix during preparation reduces long-term storage requirements. Competent qualified specialists will classify individual specimens to the lowest identifiable taxon, typically to genus, species, and element. Batch identification and batch numbering (e.g., “mammal, 25 specimens”) should be avoided.

Paleontological specimens will be cataloged according to current professional standards, and a complete list of collected specimens must be prepared. A complete set of field notes, geologic maps, and stratigraphic sections must accompany the fossil collections.

All fossil remains recovered during construction and operation must be curated by a recognized, nonprofit paleontological specimen repository with a permanent curator, such as a museum or university. Specimens must be stored in a fashion that allows researchers to retrieve specific individual specimens in the future. In addition to the LACM and UCMP, qualified research facilities include California State Polytechnic University, San Luis Obispo; the Santa Barbara Museum of Natural History; or Santa Barbara City College.

The project paleontologist will complete a final report summarizing findings, describing important fossil localities (vertebrate, megainvertebrate, or plant) discovered in the project area, and explaining any mitigation measures taken. The report will include a summary of the field and laboratory methods, site geology and stratigraphy, an itemized inventory of recovered specimens, faunal lists, and site records. The report also should discuss the importance of the recovered fossil materials. The reports will be prepared by a professional paleontologist and distributed to the appropriate agencies, museums, colleges, or universities.

Significance after Mitigation. With implementation of the above mitigation measures, impacts would be reduced to a less than significant level.

**c. Cumulative Impacts.** Cumulative development throughout the greater San Luis Obispo County area would have the potential to disturb unidentified cultural resources. However, potential impacts to cultural resources would be addressed on a case-by-case basis through site-specific investigations and, if necessary, surveys. Mitigation anticipated to be developed for individual development projects are expected to reduce cumulative impacts to cultural resources to a less than significant level.

